FAO Resilience Team support to integrated management of the Fall Armyworm (FAW)

FAO Somalia Cluster Meeting.
Rapid spread in Africa

Early 2016 (Georgen et al. 2016)  
April 2017  
August 2017

Source: CABI
Policy and Technical Meetings

- FAO Southern Africa consultative meeting, Harare (Feb 2017)
- Technical Meeting to deliberate on Fall armyworm response in Southern Africa –(25 April)
- Stakeholders Consultation Meeting on Fall Armyworm in Africa; Status and Strategy for Effective Management (27-28 April)
- FAO-ASARECA Regional Consultation- Addis (18-20 September)
- Regional Africa meeting in Accra (Anglophone) and Bamako (Francophone).
- Establishing An Emergency Community–based Fall Armyworm Monitoring, Forecasting, Early Warning and Management System (CBFAMFEW) in Eastern Africa- Entebbe (15-17 Nov)
What governments should do

• Coordinate response: task force
• Advise farmers: identification, damage and control
  *(Consistency of messaging)*
• Recommend pesticides
  *(Available; lower risk; biopesticides)*
• Emergency registration for recommended pesticides
• Short term support for small scale farmers; subsidise lower risk products?
• Promote Integrated Pest Management (IPM)
• Establish R&D – *(Testing of pesticides; efficacy, resistance)*
  *(Develop other options (agronomic, biological)*
• Pest impact assessment
• Regularly review, update recommendations
The FAO/WHO International Code of Conduct on Pesticide Management provides a framework on pesticide management for all public and private entities engaged in, or associated with production, regulation and management of pesticides. The Code provides standards of conduct and serves as a point of reference in relation to sound pesticide life cycle management practices, in particular for government authorities and the pesticide industry. The Code emphasizes the importance of the role of Integrated Pest Management or IPM* where pesticides are considered as only one of the options available.

IPM emphasizes the growth of a healthy crop with the least possible disruption to agro-ecosystems and encourages natural pest control mechanisms. IPM programmes have demonstrated that it is possible to significantly reduce pesticide use without reducing crop yield or farmer profit.

FAO is developing a long-term IPM-based strategy for the sustainable management of Fall Armyworm, which includes forecasting, crop monitoring, use of biological control options and resistant varieties, promotion of good agricultural practices and, as a last resort option, the use of pesticides.

The inappropriate use of pesticides can result in adverse effects on agricultural production, health and the environment. It can also result in pesticide residue levels in treated commodities that represent a hazard to consumers and that constrain the marketability of products both on domestic and export markets.

* IPM treats the careful consideration of all available pest control techniques and subsequent integration of appropriate measures that discourage the development of pest populations and keep pests below economic thresholds that are ecologically justified and reduce the risk to human and animal health and the environment - FAO/WHO Code of Conduct on Pesticide Management.
FAO Advisory Note on Fall Armyworm (FAW) in Africa

BACKGROUND

Fall Armyworm (Spodoptera frugiperda), FAW, is an insect pest that feeds on more than 80 crop species, causing damage to economically important cultivated cereals such as maize, rice, sorghum, and also to legumes as well as vegetable crops and cotton. It is native to tropical and subtropical regions of the Americas, with the adult mosquito able to move over 100 km per night. It lays its eggs on plants, from which larvae hatch and begin feeding. High infestations can lead to significant yield loss. Farmers in the Americas have been managing the pest for many years, but at significant cost.

Nature of the threat and its spread in Africa

FAW was first detected in Central and Western Africa in early 2016 (Sao Tome and Principe, Nigeria, Benin and Togo) and in late 2016 and 2017 in Angola, Botswana, Burundi, Democratic Republic of Congo, Ethiopia, Ghana, Kenya, Malawi, Mozambique, Namibia, Niger, Rwanda, Sierra Leone, South Africa, Tanzania, Uganda, Zambia, and Zimbabwe, and it is expected to move further.

Although it is too early to know the long-term impact of FAW on agricultural production and food security in Africa, it has the potential to cause serious damage and yield losses.

FAW’s presence in Africa is irreversible. Large-scale eradication efforts are neither appropriate nor feasible. Gathering and analyzing experiences and best practices from the Americas will help design and test a sustainable FAW management program for smallholders in Africa.

FAO Immediate response to FAW

FAO took immediate actions to support countries in responding to the threat of FAW in Africa.

A consultative meeting was held in Harare, Zimbabwe (14-16 February 2017) with government officials and stakeholders from Southern Africa to provide an update on the current situation and support emergency preparedness and rapid pest management response. FAO undertook a series of quick actions such as the development and sharing with counties of a technical guide for FAW identification, protocols to assess levels of infestation and damage, and recommendations for management options including support to governments in the development of action plans.

Two further meetings on FAW, one for the SADC region as follow-up to the Harare consultative meeting and a second one (All Africa) jointly organized by FAO, AGRRA and CIMMYT, were held in Nairobi (25-28 April 2017). The All Africa meeting gathered partners from governments, national, regional and international research and development institutions, academia and donor agencies as well as representatives from the private sector. The meeting came up with a set of action points and recommendations addressing research gaps, need for more knowledge on the pest’s biology and biological adjustments to African ecological context, monitoring, early warning and forecasting, contingency planning, impact assessment, short-, medium- and long-term measures for management of the pest.
FAO call for action

1. Management of FAW:
   Immediate Recommendations & Actions

2. Short-term Research Priorities

3. Medium to Long-term Research

4. Communications & Training

5. Surveillance & Early Warning

6. Policy & Regulatory Support

7. Coordination

Resilience Team

• Action 1: Stocktaking of country level FAW management response

• Action 2: Development of information tools and resource mobilization

• Action 3: immediate FAW control (core resource mobilization effort)
  – FAW Awareness
  – Immediate FAW Control
Fall Armyworm (Spodoptera frugiperda), FAW, is an insect native to tropical and subtropical regions of the Americas. Its larval stage (photo) feeds on more than 80 plant species, including maize, rice, sorghum, millet, sugarcane, vegetable crops and cotton. FAW can cause significant yield losses if not well managed. It can have a number of generations per year and the moth can fly up to 100 km per night.

**KEY FACTS & FIGURES**

- **Total land under maize affected**: 105,000 ha (61%)
- **Estimated Losses**:
  - 1.05m Bags (90kgs)
  - USD 11.28m

**Population Affected**: 3 million

**Budget Information**

- USD 3.18m Available
- USD 29.44 Required

**Partnership Framework**

- Management
- Research (Short-term)
- Research (Long-term)
- Communication
- Surveillance & Early Warning
- Policy
- Coordination

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the UN.

Data sources: Kenya Agricultural & Livestock Research Organization
Contact: Jackson.Kihara@fao.org
Support to FFS Curriculum

- Over 400 million people in the sub-Saharan Africa.
- Over 95% rely on Maize as a staple food
- To date, more than 1 million FFS established, over 30 million beneficiaries.
- The Agro-ecosystem analysis is the main methodology for discovery-based learning.
- Field schools build on indigenous traditional knowledge and stimulate innovations.
Design and Layout

- Bio-Ecology of the FAW and Crop phenology
- Prevention options
- Observation and Decision making
- What farmers and communities need to know.
Field studies and Experimentation

- Effect of different maize production practices on FAW management
- Maize intercropping studies
- Effects of planting dates on FAW infestation and yield losses
- Effects of Nitrogen fertilization rates and manure on levels of FAW infestation and yield loss.
- Farmer practices (ITK) and innovations
- Defoliation studies

Special topics

- Life cycle identification at all stages and damage of the FAW
- Role of natural enemies (farmer friends) in the management of the FAW
- Comparing efficacy of different botanicals and biopesticides
- Compensation experiment on maize attack by the FAW
- Record keeping for economic analysis and decision-making.
## Pilot testing of incentive based mechanical control of Fall Army Worm

### OBJECTIVES
- Explore and assess a sustainable implementation model for incentive based FAW mechanical control;
- In one selected target site mitigate the negative impact of FAW on small holder maize farmers during the 2017 short-rains cropping season, through mechanical control.
- To assess and better understand the practical implications of mechanical control in terms of effectiveness, farmers perception, labour requirements and sustainability.

### TARGET SITE
- Embu county Kenya
- The growing stage of standing maize crop at the time of pilot (i.e. significant maize acreage at early growth stage during November month 2017),
- history of previous season FAW infestation, and early indications of ongoing infestation.
Implementation strategy

- The key purpose of the pilot is to define and test a system of incentive based FAW mechanical control that is sustainable in nature, cost effective and sufficiently generic in model for wide application at scale across a range of contexts and countries.

- The pilot is based on extensive experience in relief and development efforts applying cash for work or other incentive based mechanism for support to actions requiring labour efforts beyond the norm among farmers.
Critical Implementation Activities

• Training of country agriculture staff on FAW detection and control (1-day)
• Hold a community meeting (baraza) in the selected ward
• Train scouts through a 2-day hands-on, field based training on how to identify and mechanically control FAW.
• Initiate field scouting by matching up scouts with clusters of farmers in the selected ward
• Monitoring and supervision by trained county and sub-county staff.
• Lessons learned and experience sharing.
FAW is a threat!!

BUT there is always a way –out!